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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,184	11/01/2006	Thomas Hofmann	R.305990	4929
2119 7590 08/03/2009 RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314				
EXAMINER NGUYEN, TU MINH				
ART UNIT		PAPER NUMBER		
3748				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,184

Applicant(s)

HOFMANN ET AL.

Examiner

TU M. NGUYEN

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-32, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-32, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. An Applicant's Amendment filed on April 28, 2009 has been entered. Claims 14-16, 33, and 34 have been canceled; claims 17-23, 26, 27, 29, and 30 have been amended; and claims 35-36 have been added. Overall, claims 17-32, 35, and 36 are pending in this application.

Claim Objections

2. Claim 35-36 are objected to because:

- Claim 35, line 14 of the claim, "includes a control and/or regulating device (60) which controls and/or" should read --includes at least one of a control and regulating device (60) which at least one of controls and--.

- Claim 36, lines 1-2 of the claim, "the control and/or regulating device (60) further controls and/or regulates" should read --the at least one of control and regulating device (60) further at least one of controls and regulates at least one of--. And on line 3 of the claim, "and/or" should read --and--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-32, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambert et al. (U.S. Patent 6,810,661) in view of Peter-Hoblyn et al. (U.S. Patent 5,809,774).

Re claim 35, as shown in Figure 1, Lambert et al. disclose an internal combustion engine (not shown with obviously must have) with a direct fuel injection system, having an exhaust gas post-treatment system (see lines 54-55 of column 4) for reducing pollutants in the exhaust gas, the post-treatment system includes:

- a supply container (16) with an active substance (20) and being separate from a fuel tank (12),
 - a supply device (64) for supplying the active substance (20) from the substance container (16) and not being in fluid communication with the fuel tank (12),
 - an injection device (60) for injecting the active substance (20) into the exhaust gas, and
 - a pressure reservoir (54) into which the supply device (64) supplies the active substance (20) from the supply container (16) and in which the active substance (20) can be stored under pressure, and to which the injection device (60) is connected directly,
- wherein the supply device (64) includes a high-pressure pump (64) which is separate from a pre-supply fuel pump (not shown but obviously must have) of the direct fuel injection system and a high-pressure fuel pump (32) of the direct fuel injection system;
- wherein the pressure reservoir (54) communicates with a pressure regulating device (28, 48), which includes at least one of a control and regulating device (28) which at least one of

controls and regulates the pressure in the pressure reservoir (54) as a function of the operating state of the engine (see line 58 of column 4 to line 6 of column 5); and

wherein the pressure reservoir (54) is heatable (40).

Lambert et al., however, fail to disclose that the supply device further includes a pre-supply pump.

As shown in Figure 1, Peter-Hoblyn et al. disclose an internal combustion engine (40) having a fuel supply system (42) and an exhaust treatment system (60) for reducing pollutants in the exhaust, the exhaust treatment system comprising a reservoir (10) containing an active ingredient (NO_x-reducing reagent) and a pressure reservoir (30) adapted to store the active ingredient under pressure. As indicated on lines 30-37 of column 8, Peter-Hoblyn et al. teach that it is conventional in the art to utilize a pre-supply pump (13) to supply the active ingredient from the reservoir to the pressure reservoir and to maintain sufficient pressure in a return line. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the pre-supply pump taught by Peter-Hoblyn et al. in the engine of Lambert et al., since the use thereof would have been routinely practiced by those with ordinary skill in the art to provide sufficient pressure for injecting the active ingredient into an exhaust gas stream and for returning unused ingredient to the reservoir.

Re claim 36, in the modified engine of Lambert et al., the at least one of control and regulating device (28, 48) further at least one of controls and regulates the instant of injection of the active substance a function of the mode of operation of the internal combustion engine.

Re claims 17 and 18, in the modified engine of Lambert et al., the supply device (64) further comprises at least one of a control and regulating device (28, 48), which at least one of

controls and regulates at least one of the delivery capacity of the delivery device, the pressure in the pressure reservoir, the time at which the injection of the active ingredient occurs, and the duration of an injection of the active ingredient as a function of the operating state of the internal combustion engine.

Re claims 19-21, in the modified engine of Lambert et al., at least one of the supply device (64) and the pressure reservoir (54) are of the type used in direct-injecting, fuel systems.

Re claims 22-24, in the modified engine of Lambert et al., the active ingredient is urea (line 62 of column 5).

Re claim 25, in the modified engine of Lambert et al., the engine further comprises means (40) to heat the pressure reservoir (54).

Re claims 26-27, Lambert et al. further disclose a method for operating said internal combustion engine, wherein at least one of the delivery capacity of the supply device, the pressure in the pressure reservoir, the time at which the injection of the active ingredient occurs, and the duration of the injection of the active ingredient depend on the current operating parameters (fuel temperature) of the internal combustion engine (see line 58 of column 4 to line 6 of column 5).

Re claim 28, in the modified method according to Lambert et al., the operating parameters include at least a temperature of the engine (as measured by thermal switch (30)).

Re claims 29-32, Lambert et al. further disclose a control unit, a computer program, and an electric storage medium of said internal combustion engine, operable to store said computer program to be used in the claimed method.

Response to Arguments

5. Applicant's arguments with respect to the references applied in the previous Office Action have been fully considered but they are moot in view of the new ground(s) or rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of one patent: Peter-Hoblyn et al. (U.S. Patent 6,361,754) further disclose a state of the art.

Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TMN
August 2, 2009

/Tu M. Nguyen/
Tu M. Nguyen
Primary Examiner
Art Unit 3748